

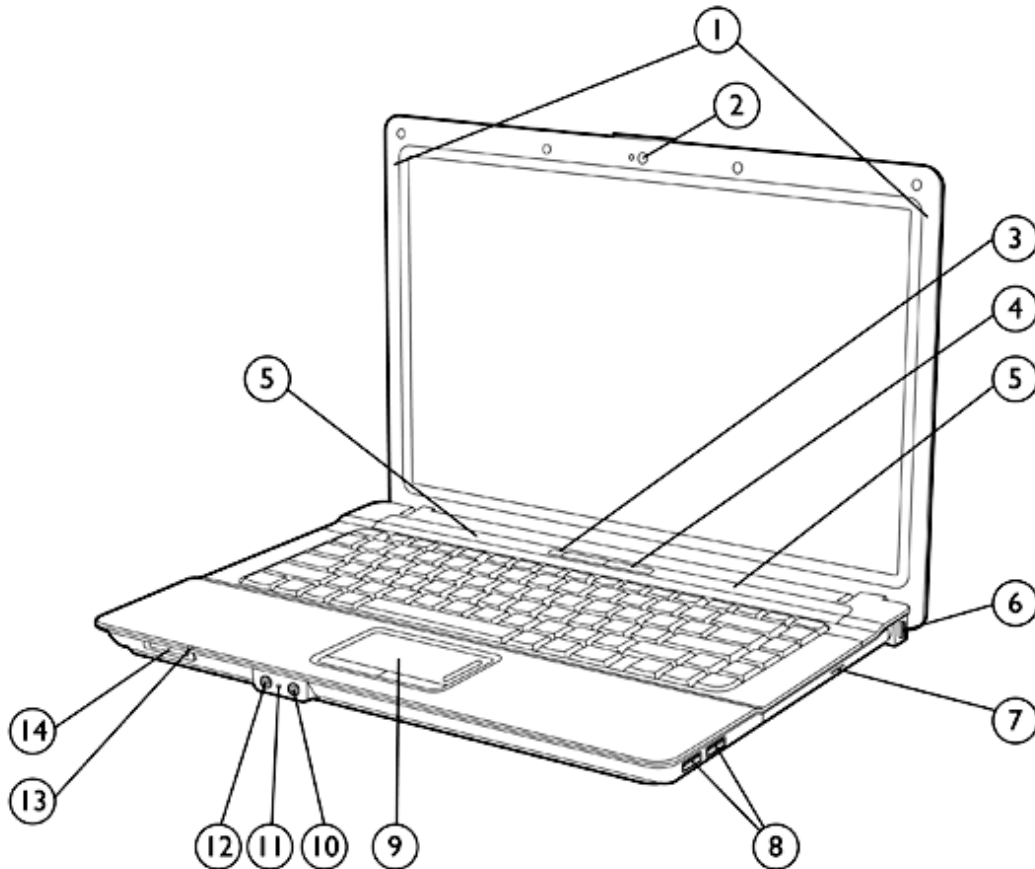
QuickSpecs

HP Compaq 6730s Notebook PC

Overview

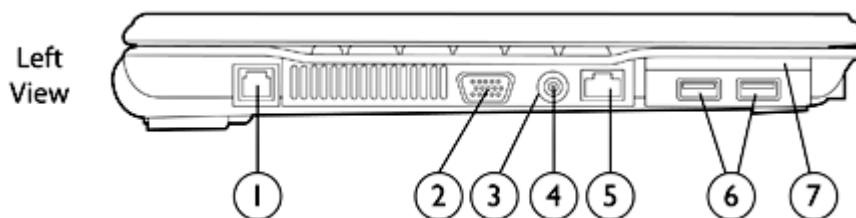
HP Compaq 6730s Notebook PC

HP recommends Windows Vista® Business



1. WLAN antennas
2. Optional VGA webcam
3. Wireless on/off button with LED indicator
4. Power button with LED
5. Stereo speakers
6. Kensington Lock slot
7. Optical drive

8. (2) USB 2.0 ports
9. Touchpad with scroll zone
10. Stereo microphone in
11. Integrated microphone
12. Stereo headphone/line out
13. Hard drive activity LED
14. Media Card slot



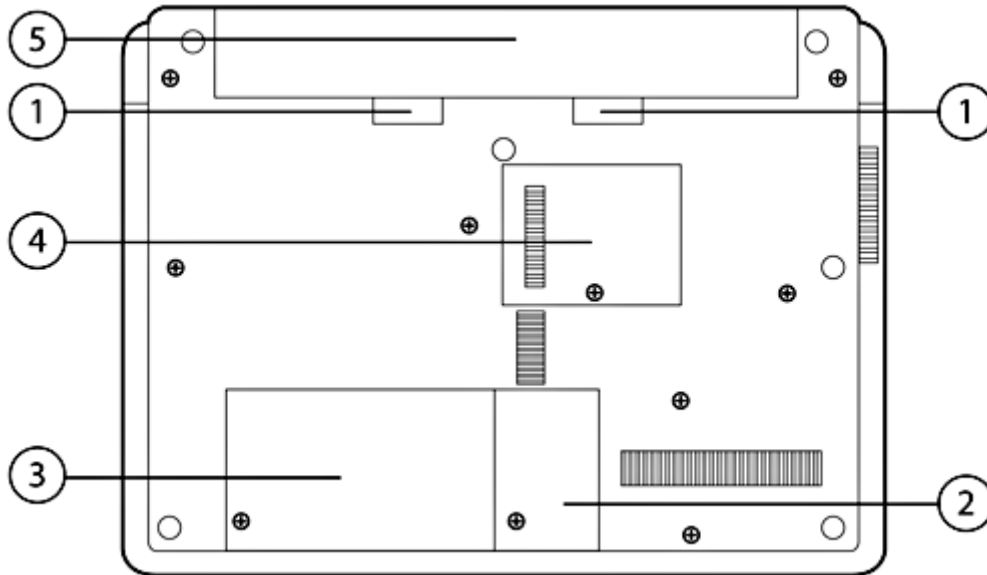
1. RJ-11/modem port
2. VGA connector (external monitor/projector)
3. Battery Charging LED

4. RJ-45/Ethernet port
5. (2) USB 2.0 ports
6. ExpressCard/54 slot



Overview

4. Power Connector



Bottom View

- | | |
|--|------------------------------|
| 1. Battery release latches | 4. Memory module compartment |
| 2. WLAN module compartment (select models) | 5. Battery bay |
| 3. Hard drive bay | |

At A Glance

- Genuine Windows Vista Business 32, Genuine Windows Vista Home Premium 32, Genuine Windows Vista Home Basic 32, or FreeDOS
- Thin, lightweight design starting at 5.5 lb/2.49 kg and 1.27 in/32.3 mm thin at front
- Widescreen 15.4-inch diagonal display with BrightView or Anti-Glare
- Flexible wireless connectivity options:
 - Integrated 802.11 a/b/g/n draft 2.0, a/b/g, or b/g wireless LAN module
 - Bluetooth® 2.0
- Intel® Core™2 Duo processor or Intel Celeron® processor
- Integrated optical drive
- Integrated Media Card Reader
- Enhanced security features including HP ProtectTools Security Manager and HP SpareKey
- Optional integrated VGA webcam
- Up to 250 GB 5400 rpm user-removable hard drive with HP 3D DriveGuard protection
- Up to 4 GB of 800 MHz DDR2 SDRAM supported, dual channel memory support
- ATI Mobility Radeon HD 3410 graphics with 256 MB video memory (512 MB HyperMemory), Mobile Intel GMA 4500MHD graphics, or Mobile Intel GMA 4500M graphics
- Marvell Ethernet (10/100 NIC) or Marvell Ethernet (10/100/1000 NIC) with PM45 chipset
- Touchpad with scroll zone

Standard Features

Processors

Intel Core 2 Duo Processor P8600 (2.40 GHz, 3 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Duo Processor P8400 (2.26 GHz, 3 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Duo Processor T5870 (2.00 GHz, 2 MB L2 cache, 800 MHz FSB)*

Intel Core 2 Duo Processor T5670 (1.80 GHz, 2 MB L2 cache, 800 MHz FSB)*

Intel Celeron Processor 585 (2.16 GHz, 1 MB L2 cache, 667 MHz FSB)*

Intel Celeron Processor 575 (2.00 GHz, 1 MB L2 cache, 667 MHz FSB)*

* Intel's numbering is not a measurement of higher performance.

NOTE: Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

Operating System	Preinstalled	Genuine Windows Vista Business 32* Genuine Windows Vista Home Basic 32* Genuine Windows Vista Home Premium 32* (limited availability) Red Flag Linux (PRC only) FreeDOS
	Supported	Genuine Windows Vista Enterprise 32* Genuine Windows XP Professional
	Certified	SuSE Linux Enterprise Desktop 10

* Certain Windows Vista product features require advanced or additional hardware. See <http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx> and <http://www.microsoft.com/windowsvista/getready/capable.mspx> for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit: <http://www.windowsvista.com/upgradeadvisor>.

Chipset	Mobile Intel PM45 Express Chipset with ICHM9, 1066 MHz front side bus (models with discrete graphics) or Mobile Intel GM45 Express Chipset with ICHM9, 1066 MHz front side bus (models with integrated graphics) or Mobile Intel GL40 Express Chipset with ICHM9, 667 MHz front side bus (Celeron models with integrated graphics)
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Graphics	Models with discrete graphics: ATI Mobility Radeon HD 3410 graphics with 256 MB dedicated video memory (512 MB HyperMemory*)
	Models with integrated graphics and Mobile Intel GM45 Express chipset: Mobile Intel Graphics Media Accelerator 4500MHD
	Models with integrated graphics and Mobile Intel GL40 Express chipset: Mobile Intel Graphics Media Accelerator 4500MHD



Standard Features

Microsoft DirectX 10 capable

*Indicates dedicated video memory and shared system memory.

Display	Internal	15.4-inch diagonal WXGA anti-glare (1280 x 800 resolution) 15.4-inch diagonal WXGA BrightView (1280 x 800 resolution)
	External	Up to 32-bit per pixel color depth VGA port supports resolutions up to 2048 x 1536 at 75 Hz, and lower resolutions at up to 100 Hz NOTE: Resolutions are dependent upon monitor capability, and resolution and color depth settings.
Memory	Standard	800 MHz DDR2 SDRAM; two slots supporting dual channel memory 1024 MB, or 2048 MB
	Maximum	Upgradeable to 4096 MB with 2048 SODIMMs in slots 1 and 2 Maximum memory with Celeron processor is 4096 MB
	Dual-channel	Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots. NOTE: Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed. Full availability of 4 GB or more of memory requires Windows Vista Business 64-bit or Linux. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.
Communications	Marvell Ethernet (10/100 NIC) with GM45 or GL40 chipset	
	Marvell Ethernet (10/100/1000 NIC)* with PM45 chipset	
	56K V.92 modem**	
	* The term "10/100/1000" or "Gigabit" Ethernet indicates compliance with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.	
	** Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.	
Wireless Devices	Support for a broad range of secure, integrated wireless LAN options featuring support for the latest industry standards. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN options.	
	All 802.11 integrated wireless LAN options	Wi-Fi certified* Cisco Compatible Extensions support Wired Equivalent Privacy (WEP) support up to 128-bit keys Wi-Fi Protected Access (WPA) and WPA2 support 802.1x authentication support, including EAP-TLS, EAP-TTLS, PEAP-



Standard Features

Intel WiFi Link 5100 GTC, PEAP-MSCHAPv2, and LEAP
Advanced Encryption Standard (AES) support
Dual antennas integrated in the display enclosure
Integrated support for 802.11a, b, g, and n draft 2.0*
Up to 300-mbps data rate

Broadcom 4312G 802.11b/g
WiFi Adapter Integrated support for 802.11 b and g
Up to 54-mbps data rate

HP Integrated Bluetooth Specification v2.0 compliant
Module with Works with a wide range of Bluetooth devices
Bluetooth Wireless Technology

* The specifications for 802.11n draft 2.0 are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11n WLAN devices. In countries where n draft 2.0 is not allowed, this capability is not enabled.

Keyboard

The 101/102-key compatible keyboard features an industry standard, full-pitch key layout with desktop keyboard features, such as the isolated inverted-T cursor control keys, editing keys, both left and right control and alt keys, and 12 function keys. U.S. and International key layouts are available. Other features include an integrated numeric keypad, hotkeys for instant access to power conservation, brightness, and other features, 19-mm x 19-mm key pitch (center-to-center spacing), 2.5-mm stroke, and comfort-dished keycaps.

Pointing device

Touchpad with scroll zone, two pick buttons

Expansion card slots

ExpressCard/54 slot Supports 32-bit CardBus and 16-bit PC Cards

Media Card Reader Supports SD (Secure Digital), MMC (MultiMedia Card), Memory Stick, Memory Stick Pro, Memory Stick Duo*, xD-Picture card

* Memory Stick Duo Adapters are required and sold separately. Inserting a Memory Stick Duo Card directly into your notebook could damage the memory card and/or notebook.

Storage

Internal Storage Device 120/160/250 GB 5400 rpm SMART SATA Hard Drive

NOTE: These hard drives are customer removable and will withstand multiple insertion/removal cycles. Up to 10 GB is reserved for the system recovery software.

HP 3D DriveGuard The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. Uses three-axis digital motion detection with intelligent sensitivity to help protect the hard drive during normal use from shock and vibration. The digital accelerometer temporarily halts all data transfer and parks the hard drive when



Standard Features

Fixed optical drive abrupt motion is detected.
 DVD+/-RW SuperMulti DL LightScribe Drive

Interfaces

ExpressCard/54 slot	One – Supports ExpressCard/54 and ExpressCard/34
External monitor	One – VGA
Stereo microphone in	One
Stereo headphone/line out	One
Power connector	One
RJ-11/modem	One
RJ-45/Ethernet	One
USB 2.0	Four
LED status indicators	Seven

Audio/Visual

- High Definition Audio support
- Integrated stereo speakers
- Integrated microphone
- Stereo headphone/line out
- Stereo microphone in
- Optional VGA webcam

Software

Preinstalled software with Windows Vista or Windows XP	<ul style="list-style-type: none"> HP Recovery Manager HP Help and Support Center HP Universal Print Driver HP ProtectTools Security Manager: <ul style="list-style-type: none"> BIOS Configuration for HP ProtectTools Credential Manager for HP ProtectTools Drive Encryption for HP ProtectTools HP QuickLaunch Buttons HP Wireless Assistant Microsoft Office Ready with 60-day Office Professional 2007 Trial Edition (select models) PDF Complete SE Intervideo WinDVD – DVD Player Roxio Creator Business (for optional DVD+/-RW and DVD/CDRW drives) McAfee Total Protection Synaptics Touchpad Driver
Additional software available from the web	<ul style="list-style-type: none"> HP SoftPaq Download Manager Java Card Security for HP ProtectTools



Standard Features

HP Recovery Manager Each unit is shipped with HP Recovery Manager. HP Recovery Manager enables fast recovery of the factory preinstalled image if the system becomes corrupted or if important system files are accidentally deleted. Up to 10 GB of the hard drive is reserved for the system recovery software.

HP ProtectTools Security Manager HP ProtectTools Security Manager is the security platform for business notebooks and desktops. The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. Modules currently available are:

- BIOS Configuration for HP ProtectTools
- Credential Manager for HP ProtectTools
- Drive Encryption for HP ProtectTools
- File Sanitizer for HP ProtectTools
- Set-up Wizard for HP ProtectTools
- Java Card Security for HP ProtectTools

Security	Standard Features	HP ProtectTools Security Manager Enhanced Pre-Boot Security HP SpareKey One-Step Logon Configuration Control Hardware Memory Change Alert Ownership Tag Setup Password Power-On Password HP Disk Sanitizer HP 3D DriveGuard Kensington Lock Slot Support for Computrace / LoJack for Laptops (must be purchased separately)
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For more information on HP security solutions refer to: <http://www.hp.com/go/security>.

Power Supply External 65-watt Smart AC adapter
External 90-watt Smart AC adapter (discrete graphics only)
6-foot (1.8-meter) power cord included; total length including external AC adapter is 12 feet (3.66 meter)
HP Fast Charge*
**HP Fast Charge recharges your battery up to 90% within 90 minutes when the system is off.*

Battery	Primary battery	6-cell (47 WHr) Lithium-Ion battery 8-cell (63 WHr) Lithium-Ion battery
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Standard Features

Battery Life	8-cell (63 WHr)	6-cell (47 WHr)
Primary battery	Up to TBD hours and TBD minutes	Up to TBD hours and TBD minutes

NOTE: The listed battery life measurements were taken on models running Microsoft Windows Vista Business. Battery life will vary depending on the product configuration, product model, applications loaded on the product, power management settings of the product, and the product features used by the customer. As with all batteries, the maximum capacity of this battery will decrease with time and usage.

System Standby Time	Up to TBD week
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Power Conservation	Supports enhanced Intel SpeedStep technology with Intel Core 2 Duo (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode) Intel Display Power Saving technology (models with integrated graphics) ATI PowerPlay technology (models with discrete graphics) Hibernation Standby ACPI compliance
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Service and Support	HP Services offers limited 3-year, 1-year and 90-day warranty options depending on country; 1-year limited warranty on primary battery. Warranty upgrades are also available. HP Care Pack Services extend service contracts beyond the standard warranties. For more details visit: http://www.hp.com/go/lookuptool .
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NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.
<http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>.



Options

Memory	HP 1-GB (DDR2 800 MHz) SODIMM	KT292AA
	HP 2-GB (DDR2 800 MHz) SODIMM	KT293AA
	HP 4-GB (DDR2 800 MHz) SODIMM	KT294AA

Storage	HP Notebooks USB Diskette Drive	DC361B
	HP External MultiBay II Cradle	PA509A#xxx
	HP MultiBay II DVD-ROM Drive	PA849A
	HP MultiBay II DVD+/-RW SuperMulti DL Drive	PA851A
	HP Primary SATA 250-GB 5400 rpm Hard Drive	AK072AA

Power	HP 65W Smart AC Adapter	ED494AA#xxx
	90W Air/Auto/AC Smart Combo Adapter	AJ652AA#xxx
	65W Air/Auto/AC Smart Combo Adapter	ED993AA#xxx
	HP 6800s/6700s Series 8-cell Primary Battery	KU532AA

Carrying Cases	HP Basic Carrying Case	AJ078AA
	HP Value Nylon Case	RR314AA
	HP Universal Nylon Case	RR315AA
	HP Executive Leather Case	RR316AA
	HP Deluxe Nylon Backpack	RR317AA
	HP Deluxe Roller Case	GD405AA

Security	HP/Kensington MicroSaver Security Lock	PC766A
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Input/Output Devices	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP USB Optical Travel Mouse	RH304AA
	HP USB Standard Keyboard	DT528A#xxx



Memory

667 MHz or 800 MHz DDR2 SDRAM

Two DIMM slots supporting dual channel memory

DIMM sizes supported: 512 MB, 1024 MB, and 2048 MB

- Standard Memory
- 1024 MB (1024 MB x)
 - 2048 MB (2048 MB x 1 or 1024 MB x 2)
 - 3072 MB (2048 MB x 1024 MB)
 - 4096 MB (2048 MB x 2)

Optional Memory Upgrades Support for up to 4098 MB of memory with the installation of optional DDR2 SDRAM memory kits. Both memory slots are user accessible. Please refer to the Hardware and Software Guide for installation procedures. Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

Up to	Slot 1	Slot 2
1024 MB	1024 MB	Empty
1024 MB	512 MB	512 MB
1536 MB	1024 MB	512 MB
2048 MB	1024 MB	1024 MB
3072 MB	2048 MB	1024 MB
4096 MB	2048 MB	2048 MB

NOTE: This chart does not represent all possible memory configurations. Due to the non-industry standard nature of some third-party memory modules, we strongly recommend using only HP branded memory modules to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed. Full availability of 4 GB or more of memory requires Windows Vista Business 64-bit or Linux. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.

Memory Upgrades

HP 1-GB (DDR2 667 MHz) SODIMM	EM994AA
HP 2-GB (DDR2 667 MHz) SODIMM	EM995AA
HP 1-GB (DDR2 800 MHz) SODIMM	KT292AA
HP 2-GB (DDR2 800 MHz) SODIMM	KT293AA
HP 4-GB (DDR2 800 MHz) SODIMM	KT294AA



Storage

Removable Media Drive Support

	Quantity Supported	Drive Bay
DVD+/-RW SuperMulti DL LightScribe Drive	One	Fixed optical drive bay

Internal Storage Device

	Quantity Supported	Drive Bay
Hard Drives		
250-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay
160-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay
120-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay

Technical Specifications

System Unit	Dimensions (HxWxD)	1.27 in (at front) x 14.1 in x 10.5 in 32.3 mm (at front) x 358 mm x 266.8 mm
	Weight	Starting at 5.5 lb (2.49 kg)
	<p>NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery, hard drive, and optical drive. Weight varies by configuration and components.</p>	
Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	18.5 V
	Average Operating Power	TBD W
	Max Operating Power	< 90 W
Temperature	Operating	32° to 95° F (0° to 35° C) (not writing optical)
		41° to 95° F (5° to 35° C) (writing optical)
Relative Humidity	Non-operating	-4° to 140° F (-20° to 60° C)
	Operating	10% to 90%, non-condensing
	Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
Shock	Operating	125 G, 2 ms, half-sine
	Non-operating	200 G, 2 ms, half-sine
Random Vibration	Operating	0.75 grms
	Non-operating	1.50 grms
Altitude (unpressurized)	Operating	-50 to 10,000 ft (-15.24 to 3,048 m)
	Non-operating	-50 to 40,000 ft (-15.24 to 12,192 m)
Industry Standard Certifications	UL	Yes
	CSA	Yes
	FCC Compliance	Yes
	ENERGY STAR® 4.0	TBD
	ICES	Yes
	Australia / NZ A-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	MIC	Yes
	BSMI	Yes
CE Marking Compliance	Yes	
BNCI or BELUS	Yes	
CIT	Yes	
GOST	Yes	
Saudi Arabian	Yes	



Technical Specifications

Compliance (ICCP)

SABS Yes

UKRSERTCOMPUTER Yes

For accessibility information on HP products, please visit: <http://www.hp.com/accessibility>.

HP 65W Smart AC Adapter	Dimensions	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)		
	Weight	0.62 lb (280 g)		
	Input	100 to 240 VAC		
		Input Efficiency	83% min at 115 VAC	
		Input frequency range	47 to 63 Hz	
	Output	Input AC current	1.7 A at 90 VAC, 0.85 A at 180 VAC	
		Output power 65W	65W	
		DC output	18.5V	
		Hold-up time	5 msec at 115 VAC input	
		Output current limit	<11A, Over voltage protection- 29V max automatic shutdown	
		Connector	3 pin/grounded, mates with interchangeable cords	
	Environmental Design	Operating temperature	32° to 104° F (0° to 40° C)	
		Non-operating (storage) temperature	-4° to 149° F (-20° to 65° C)	
		Altitude	0 to 10,000 ft (0 to 3,048 m)	
Humidity		20% to 80%		
EMI and Safety Certifications	Storage Humidity	10% to 90%		
	CE Mark – full compliance with LVD and EMC directives; Worldwide safety standards – IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals – C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF – over 200,000 hours at 25°C ambient condition.			

HP 90W Smart AC Adapter	Dimensions	5.00 x 1.97 x 1.1 in (12.7 x 5.0 x 2.9 cm)		
	Weight	0.82 lb (370 g)		
	Input	100 to 240 VAC		
		Input Efficiency	83% min at 115 VAC	
		Input frequency range	47 to 63 Hz	
	Output	Input AC current	1.5 A at 90 VAC, 0.75 A at 180 VAC PFC Version	
			2.4 A at 90 VAC, 1.2 A at 180 VAC NON PFC Version	
		Output power 65W	90W	
		DC output	19.0V	
		Hold-up time	5 msec at 115 VAC input	



Technical Specifications

	Output current limit	<11A, Over voltage protection- 29V max automatic shutdown
Connector	3 pin/grounded, mates with interchangeable cords	
Environmental Design	Operating temperature	32° to 104° F (0° to 40° C)
	Non-operating (storage) temperature	-4° to 149° F (-20° to 65° C)
	Altitude	0 to 10,000 ft (0 to 3,048 m)
	Humidity	20% to 80%
	Storage Humidity	10% to 90%
EMI and Safety Certifications	CE Mark – full compliance with LVD and EMC directives; Worldwide safety standards – IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals – C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF– over 200,000 hours at 25°C ambient condition.	

8-Cell (63 WHr) Lithium-Ion battery	Dimensions (H x W x L)	0.8 x 1.9 x 10.6 in (2.0 x 4.8 x 27.0 cm)		
	Weight	0.980 lb (0.445 kg)		
	Cells/Type	8-cell Lithium-Ion		
	Energy	Watt-hour Capacity	63 WHr	
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)	
		Operating (Discharging)	14° to 140° F (-10° to 60° C)	
		Non-operating	-4° to 140° F (-20° to 60° C)	
	Battery Re-Charge Time	System in OFF mode or Standby	2.5 hours	
		System ON	3 to 5 hours (depending on system power consumption)	
		HP Fast Charge Technology	Charges the battery up to 90% within 1.5 hours when system is OFF	

6-Cell (47 WHr) Lithium-Ion battery	Dimensions (H x W x L)	0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm)		
	Weight	0.690 lb (0.313 kg)		
	Cells/Type	6-cell Lithium-Ion		
	Energy	Watt-hour Capacity	47 WHr	
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)	
		Operating (Discharging)	14° to 140° F (-10° to 60° C)	
		Non-operating	-4° to 140° F (-20° to 60° C)	
	Battery Re-Charge Time	System in OFF mode or Standby	2.5 hours	
		System ON	3 to 5 hours (depending on system power consumption)	



Technical Specifications

HP Fast Charge Technology

Charges the battery up to 90% within 90 minutes when system is OFF

15.4-inch WXGA anti-glare	Active Area (W x H)	13.0 x 8.1 in (33.1 x 20.7 cm)		
	Diagonal Size	15.4 in (39.1 cm)		
	Surface Treatment	Anti-glare		
	Number of Colors	Up to 16M		
	Contrast Ratio	300:1 (typical)		
	Refresh Rate	60 Hz		
	Brightness	200 nit (typical)		
	Pixel Resolution	Pitch	0.259 mm	
		Format	1280 x 800	
		Configuration	RGB stripe	
	Backlight	CCFL		
PPI	98			
Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)			

15.4-inch WXGA BrightView	Active Area (W x H)	13.0 x 8.1 in (33.1 x 20.7 cm)		
	Diagonal Size	15.4 in (39.1 cm)		
	Surface Treatment	BrightView		
	Number of Colors	Up to 16M		
	Contrast Ratio	300:1 (typical)		
	Refresh Rate	60 Hz		
	Brightness	200 nit (typical)		
	Pixel Resolution	Pitch	0.259 mm	
		Format	1280 x 800	
		Configuration	RGB stripe	
	Backlight	CCFL		
PPI	98			
Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)			

Hard Drives

250 GB 5400 rpm SATA Hard Drive	Drive Weight	0.22 lb (101 g)
	Capacity	250 GB
	Height	0.37 in (9.5 mm)



Technical Specifications

Width	2.75 in (70 mm)	
Interface	ATA-7 / SATA 2.5	
Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
Seek Time (typical reads, including settling)	Single Track	3 ms
	Average	13 ms
	Maximum	24 ms
Rotational Speed	5400 rpm	
Logical Blocks	488,397,168	
Operating Temperature	41° to 140° F (5° to 60° C) [case temp]	
Features	ATA Security	

160 GB 5400 rpm SATA Hard Drive

Drive Weight	0.22 lb (101 g)	
Capacity	160 GB	
Height	0.37 in (9.5 mm)	
Width	2.75 in (70 mm)	
Interface	ATA-7 / SATA 2.5	
Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
Seek Time (typical reads, including settling)	Single Track	3 ms
	Average	13 ms
	Maximum	24 ms
Rotational Speed	5400 rpm	
Logical Blocks	312,581,808	
Operating Temperature	41° to 140° F (5° to 60° C) [case temp]	
Features	ATA Security	

120 GB 5400 rpm SATA Hard Drive

Drive Weight	0.22 lb (101 g)	
Capacity	120 GB	
Height	0.37 in (9.5 mm)	
Width	2.75 in (70 mm)	
Interface	ATA-7 / SATA 2.5	
Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
Seek Time (typical reads, including settling)	Single Track	3 ms
	Average	13 ms
	Maximum	24 ms
Rotational Speed	5400 rpm	



Technical Specifications

Logical Blocks	234,441,648
Operating Temperature	41° to 140° F (5° to 60° C) [case temp]
Features	ATA Security

Removable Storage Drives

DVD+/-RW SuperMulti DL LightScribe Drive	Access Times	Random	<175 ms CD (typical) <230 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM	Up to 3,600 KB/s
		8X DVD	Up to 10,800 KB/s
		24X CD-R	Up to 3,600 KB/s
		16X CD-RW	Up to 2,400 KB/s
		8X DVD+R	Up to 10,800 KB/s
		4X DVD+RW	Up to 5,400 KB/s
		8X DVD-R	Up to 10,800 KB/s
		4X DVD-RW	Up to 5,400 KB/s
		2.4X DVD+R(9)	Up to 2,700 KB/s
		5X DVD-RAM	Up to 6,750 KB/s
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, LightScribe		
Max Media Capacity (read)	8.5 GB		
Max Media Capacity (write)	8.5 GB		
Transport	Tray Loading		

Audio

Hardware	Implementation	ADI 1984AJCPZ High Definition CODEC
	Touch-Sensitive Volume Controls	Volume up, volume down, and mute
	Full Duplex	Yes
	Microphone In	Stereo



Technical Specifications

Headphone/Line Out Stereo
Integrated Yes
Microphone

Audio Output Quality

Frequency Response	20 Hz – 20 kHz
Signal to Noise Ratio	>85 dB
Total Harmonic Distortion	0.01%
Noise Floor	-110 dB
Play/Record Sampling Rate(s)	8 kHz – 48kHz
DAC	16, 20 or 24-bit
ADC	16 or 20-bit

Integrated Stereo Speakers	Power Rating	2 Watts
	Impedance	4 Ohms

Communications

V.92 56K Data/Fax Modem	Form Factor	MDC 1.5 Daughtercard
	Power Management Support	APM Revision 1.2, ACPI
	Approvals/Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE Mark, Other Countries
	Data Mode Capabilities	V.92 data V.8bis V.80 V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) Optional symbol rates: 2800, 3429 Asymmetric Symbol rates Synchronous primary channel data signaling rates: 3600, 31200 Automatic rate re-negotiation V.34 V.32bis V.32 V.23 V.22bis V.22



Technical Specifications

	V.21
	Bell 212A
	Bell 103J
Fax Mode	TIA/EIA-578-B (Class 1)
Capabilities	T.30, T.4 (Group 3)
	V.17
	V.29
	V.27ter
	V.21 Channel 2
Command Set	V.250 (Partial)
	TIA-602
	Identification: +GMI, +GMM, +GMR
	Port control: +IPR, +ICF, +IFC, +ILRR
	Modulation: +MS, +MR, +MA
	Error control: +ES, +ER, +EB, +ESR, +ETBM
	Data compression: +DS, +DR
	V.251

Intel WiFi Link 5100	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n (draft 1.02)
	Interoperability	Wi-Fi certified (802.11abgn) Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN) Tested with wireless access points from several major manufacturers (details at: http://www.hp.com/go/notebooks/WLAN/draft-n)
	Frequency Band	2.4 GHz and 5 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n (draft): 66 possible data rates, ranging from 6 Mbps to 300 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as defined in IEEE 802.11n (draft) specification
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security ¹	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES (support for key sizes of 128, 192, and 256 bits), 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows 2000 and XP only.
	Sub-channels	Multinational support with frequency bands and channels compliant to



Technical Specifications

	local regulations.
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power (for CCK) ²	15 dBm
Output Power (for OFDM; power varies by data rate) ²	15 dBm
Power Consumption	Transmit: 2.3 Watts (average, with one spatial streams) Receive: 1.9 Watts (average with two receive chains) Idle mode ³ : 30 mW (average) Radio off: 20 mW (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity ⁴	300 Mbps: -68 dBm, 54 Mbps: -74 dBm, 6 Mbps: -90 dBm
Antenna Connections	3 U.FL type connectors, 50 ohm nominal impedance
Range	802.11 a – Typical (@6 Mbps) 600 feet – Outdoor Open Area 150 feet – Indoor, Office environment 802.11 b – Typical (@1 Mbps) 1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment 802.11 g – Typical (@1 Mbps) 1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
Form Factor	PCI-Express MiniCard
Weight	0.013 lb (6 g)
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)
Operating Voltage	3.3V +/- 9%, 1.5V +/- 5%
Temperature	Operating 32° to 176° F (0° to 80° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% (non-condensing) Non-operating 5% to 90% (non-condensing)
Altitude	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
Configuration Utility ⁵	Microsoft Windows XP Choice of Configuration Utility: <ul style="list-style-type: none"> • Microsoft Windows XP Wireless Network Connection Manager • Intel PROSet for Microsoft Windows XP (required for Cisco Compatible Extensions support)



Technical Specifications

Microsoft Windows Vista

- Microsoft Windows Vista Wireless Network Connection Manager

LED Activity

LED Off – Radio OFF; Solid LED On – Radio ON

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. In Power Save Polling mode and on battery power.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

Broadcom 4312G 802.11b/g WiFi Adapter	Wireless LAN Standards	IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	Security ¹	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power (for CCK) ²	17 dBm



Technical Specifications

Output Power (for OFDM; power varies by data rate) ²	15 dBm	
Power Consumption	Idle associated: 250 mW Idle unassociated: 150 mW Transmit: 2.0 W (max) Receive: 2.0 W (max)	
Power Management	ACPI compliant power management 802.11 compliant power saving mode	
Receiver Sensitivity ³	54 Mbps: -71 dBm, 11 Mbps: -85 dBm , 1 Mbps: -95 dBm	
Antenna type	High efficiency dual band antenna with spatial diversity, mounted in the display enclosure	
Range	802.11 b – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
Form Factor	PCI-Express MiniCard	
Weight	0.026 lb (12 g)	
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)	
Operating Voltage	3.3v +/- 10%	
Temperature	Operating	14° to 149° F (-10° to 65° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
Configuration Utility ⁴	Microsoft Windows XP Choice of Configuration Utility: <ul style="list-style-type: none"> • Microsoft Windows XP Wireless Network Connection Manager • Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support) Microsoft Windows Vista <ul style="list-style-type: none"> • Microsoft Windows Vista Wireless Network Connection Manager 	
LED Activity	LED Off – Radio OFF; Solid LED On – Radio ON	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with



Technical Specifications

Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

HP Integrated Module with Bluetooth Wireless Technology	Bluetooth Specification	2.0 Compliant
	Dimensions	1.02 x 0.55 x 0.22 in (26 x 14 x 5.7 mm)
	Frequency Band	2402 to 2480 MHz
	Number of Available Channels	79 (1 MHz) available channels
	Data Rates and Throughput	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric
	Transmit Power	-6 dBm to 4 dBm (Bluetooth Class II)
	Receiver Sensitivity	Better than -80 dBm at 0.1 % raw bit error rate
	Power Consumption	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
	Antenna	Internally integrated within module
	Range	Up 33 ft (10 m)
	Electrical Interface	USB 2.0 compliant Microsoft Windows Plug and Play compliant
	OS Support	Microsoft Windows XP Professional and Home Microsoft Windows 2000
	Bluetooth Software Supported	Broadcom Bluetooth for Windows Microsoft Windows XP Bluetooth Software
	Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
	Security	Full support of Bluetooth Security Provisions
	Power Management	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
	Certifications	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
	Temperature	Operating -4° to 158° F (-20° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)



Technical Specifications

Humidity	Operating	10% to 90%
	Non-operating	5% to 95%
Altitude	Operating	15,000 ft (4,572 m)
	Non-operating	40,000 ft (12,192 m)
Bluetooth Profiles Supported	(with Bluetooth for Windows 4.0 software)	
	Serial Port Profile (SPP)*	
	Dial-Up Networking (DUN)*	
	Generic Object Exchange Profile (GOEP)	
	Object Push Profile (OPP)*	
	File Transfer Profile (FTP)	
	Synchronization Profile (SYNC)	
	Hard Copy Cable Replacement (HCRP)*	
	Personal Area Networking Profile (PAN)*	
	Human Interface Device Profile (HID)*	
	FAX Profile (FAX)	
	Basic Imaging Profile (BIP)	
Headset Profile (HSP)		
Hands Free Profile (HFP)		
Advanced Audio Distribution Profile (A2DP)		

* indicates the profile is also supported by Microsoft Windows XP SP2

Environmental Data	Eco-Label Certifications	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:
	System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data is based on a "Typically Configured Notebook"

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